

## **East Face Appendix D Cumulative Effects Analysis Process and Project Area Activities**

The following process and assumptions were used by the East Face ID Team in their analysis of the effects of actions proposed in this document on their resources.

**A. Analysis Area** - In general, the analysis area will be the project area. If the resource being analyzed necessitates extending the analysis area outside the project area for an appropriate analysis then the extent of the analysis area is documented under each resource area.

**B. Effects** - The specific effects of each action alternative on the environment, including the No Action alternative are to be analyzed by each resource area.

***Actions to be analyzed by ALL resources are:***

1. Commercial timber harvest (HFU, HTH, HIM, HPO, HSH, HSA) include logging systems (tractor, skyline, helicopter)
2. Non-commercial timber harvest (FFU) include removal method
3. Post Harvest treatments (grapple piling, slashbusting, hand piling, whipfelling, burning (Rx'ed and site prep), precommercial thinning, planting)
4. Precommercial Thinning w/o harvest
5. Non-commercial fuel reduction work mechanical (WFM) and by hand (WFH)
6. Biomass Removal
7. Prescribed Fire – including mechanical pre-treat
8. Mechanical Control lines for burning
9. Hand treatments within RHCAs
10. OFMS restoration to OFSS
11. Connective Corridors
12. Snag Retention
13. Temporary Road Construction (on existing wheel tracks and not)
14. Closed Roads Re-opened for Administrative Access (and reconstruction work to open)
15. Road Decommissioning
16. Roadside Hazard Tree Removal
17. Mitigation Measures
18. Whitebark Pine treatments
19. Treating in MA15
20. Treating in MA6
21. Bridge Replacement
22. Culvert Replacement

***Show the cause and effect for Direct, Indirect, and Cumulative effects, defined as follows:***

**Direct Effects:** Explain the direct effects the implementation of the alternatives would have on the environment. These include effects which are caused by the action and occur at the same time and place as the action.

**Indirect Effects:** Describe indirect effects of alternatives on the environment. Indirect effects include those which are caused by the action but are later in time or farther removed in distance what are still reasonable foreseeable.

**Cumulative Effects:** The cumulative effects analysis will include:

Past Actions      +      Present Actions      +      Proposed Actions      +      Reasonably Foreseeable

Present actions will incorporate all known activities. Reasonably foreseeable future is approximately 5 years within which we are reasonably certain our proposed actions would occur.

**Note:** should you change any of these parameters, the change is documented in the effects writeup for that resource.

**C. Analyze the effects** in terms of:

1. **Differences from the present condition:** How do each of the alternatives (include all actions under each) change the environment based on what is there now? What are the specific differences between alternatives? What is the direction of the effect (increase or decrease)?
2. **Duration:** How long will the impacts last?
3. **Significance:** Analyze in terms of context and intensity.
  - **Context:** Analyze whether effects are local, regional, national, or affect society as a whole.
  - **Intensity:** Analyze in terms of severity of impacts.

Effects write-ups need to disclose what these actions WILL DO to the environment.

Avoid relative measurements such as "minimal, substantial, etc". Talk about the specific differences between alternatives in units of measure that are relevant, quantifiable, and descriptive. Use the Key Indicators to describe the effects on the key issues.

Use tables graphs, drawings, etc. when appropriate and available.

Use references to relevant scientific studies to back up statements when appropriate and available. In addition, identify where there are information gaps, incomplete or unavailable information.

**IMPORTANT:** Include a section on Forest Plan Compliance in your reports which describes how the project complies with the goals, standards, and guidelines for your resources.

Include your Literature Cited at the end of your report using the 2012 EMC Publishing Arts Style Guide format.

Sign and date your report – can be electronic signature but needs to be done.

**D. Present and Reasonably Foreseeable Future Actions**

The following is a list of present and reasonably foreseeable future activities within the project area, and on immediately adjacent public and private lands. This list will serve as a guide for resource specialists as they define their Analysis areas for their resource and identify the direct, indirect, and cumulative effects of implementing the East Face Vegetation Management project alternatives. Reasonably foreseeable future is defined as within the next 5 years for this analysis.

To understand the contribution of past actions to the cumulative effects of the proposed action and alternatives, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment to the present.

**Present and Reasonably Foreseeable Future Actions in the Limber Jim/Muir Project Area**

<b>Project Name</b>	<b>SWS</b>	<b>Year</b>	<b>Activity</b>
<b>Vegetation Management</b>			
Noxious Weed Management Plan	All	Ongoing	Continue prevention and treatment strategies for known noxious weed sites from the 1994 W-W Noxious Weed Management Plan.
W-W Invasive Species Treatment ROD	All	Pending Litigation	Implement the W-W Invasive Species ROD, which includes an Early Detection Rapid Response (EDRR) strategy for addressing new sites, along with strategies for preventing the spread of and treating known sites.
Ladd Canyon RMEF Precommercial Thinning	Jordan Cr., Upper Ladd Cr., Upper Wolf Cr.	2015-2018	Thinning 4,306 acres pf plantations of PP, WL, DF, LP and GF to 14x – 20x spacing with 10% of area untreated to improve elk forage opportunities and attract elk off of bordering private lands. Some units will be identified for hand piling.
Elkhorn Wildlife Area (EWA) Timber Sales	Lower Anthony Cr., Middle North Powder	2015-2025	220 acres of 4,000 acre EWA will be harvested in 2015 with remaining acres to be harvested 200-500 acres every 1-2 years to put the forested acres under management to reduce fuel loadings, improve stand health, and increase forage production for big game. Treatments will include moving roads out of drawbottoms, commercial and non-commercial harvest, and prescribed burning.
<b>Fuels Reduction and Prescribed Burning</b>			
Limber Jim/Muir Fuels Reduction Project	Tanner Gulch-Grande Ronde River, Upper Beaver Cr., Lower Anthony Creek	2016-2019	Fuels reduction project including timber harvest, biomass removal, precommercial thinning, slashbusting, piling and burning, firewood cutting, roadside hazard tree removal and prescribed burning.
<b>Special Uses</b>			
La Grande Municipal Watershed	Upper Beaver Creek	Ongoing	Watershed managed for water quality for municipal watershed backup source. Area is closed to motor vehicle traffic – but receives non-motorized recreation (hiking, horseback, hunting, fishing, camping)
NRCS Snowtel and Snow Survey Sites	Upper Anthony, Lower Anthony	Ongoing	USDA – NRCS has multiple meteorological and snow survey sites. A SNOTEL site is on a ridgetop above Wolf Creek in T. 6 S., R. 37 E., S. 2 and three snow survey courses along the 73 road at T. 7 S., R. 37 E., S. 12; T. 7 S, R. 37 E., S. 9; and T. 7 S., and T. 7 S., R. 37 E., S. 18. Tracked-ATV and snowshoe provide access the snow courses near the 1 <sup>st</sup> of each month and annual maintenance is performed in the summer and fall.

Project Name	SWS	Year	Activity
OTEC Powerline	Upper Anthony	Ongoing	Oregon Trail Electric Co-Op (OTEC) maintains a power transmission line in a Right-of-Way through East Face, roughly adjacent to the 73 road. OTEC is permitted to manage vegetation within their ROW to prevent interference with their transmission lines. This management will include cutting trees within the ROW and, if future requests are granted, may also include cutting trees outside the ROW that are tall enough to pose a hazard to OTEC infrastructure.
Irrigation Ditches	Lower Anthony, Lower North Powder	Ongoing	The Carnes and Coughanour irrigation ditches both originate off of Anthony Creek in the Lower Anthony Creek subwatershed. The Carnes ditch originates on National Forest and the Coughanour ditch originates on BLM land.
Buried Phone and Internet Lines	Upper Anthony Creek	Ongoing	Cascade Utilities/Reliance maintains a buried line through East Face which provides phone and internet service to residents along the 73 road.
Anthony Lakes Water System Upgrade	Upper Anthony Cr.	2015-2016	Water system upgrade for Anthony Lakes Campground - activities include drilling 6" well approximately 150' deep, installation of approx. 140' of 4" waterline to connect the well to existing water distribution system, and construction of new pump house building for pressure tanks, pipes, and electrical systems.
<b>Recreation</b>			
Anthony Lakes Ski Area	Upper Anthony Cr.	Ongoing	Anthony Lakes Mountain Resort (ALMR) operates the ski area, lodge, rental shop, and associated facilities (parking lot, ski runs, lift facilities, storage buildings, and equipment) under a special use permit.
Anthony Lakes Campground, Mud Lake and Grande Ronde Lake	Upper Anthony Creek	Ongoing	The Aud & Di concessionaire operates three campgrounds (Anthony Lakes, Mud Lake, and Grande Ronde Lake) and a day-use area under a special use permit. This permit is due to expire in 2016, and a prospectus will be issued for a new concessionaire in summer or fall of 2015. There will potentially be a new concessionaire in place at Anthony Lakes before East Face project work commences. All three of these campgrounds are in high-elevation subalpine fir and lodgepole pine stands. Contain camp sites, parking, fire pit, pit toilets, and picnic tables.
Floodwater Flat Recreation Residences	Upper Anthony Cr.	Ongoing	35 acre tract consists of 24 cabins and associated facilities such as storage sheds, outhouses, and propane tanks. The cabins are administered under 20-year special use permits. Fuels reduction activities conducted within the last 10 years by the Forest Service has been accomplished around the residences. The actions were generally limited to within 200' of the tract. Not all cabins have had

Project Name	SWS	Year	Activity
			fuel reduction activities adjacent to their cabins.
X-Country Ski Trails	Upper Anthony Cr.	Ongoing	Several miles of designated x-country ski trails are located in the Anthony Lakes area.
Non-motorized Mountain Bike Trails	Upper Anthony, Middle North Powder	Ongoing	Mountain bikers ride on a closed road system off the 7312 near Gorham Butte. By using the 7300140/7300146 road as a connector, these trails have the potential to become an important component of the burgeoning Anthony Lakes mountain bike circuit.
Dispersed Camping	All	Ongoing	Dispersed camping occurs primarily during hunting season and can occur throughout the project area since there is currently no restriction on cross-country motorized travel.
Firewood Cutting	All	Ongoing	District-wide personal use firewood
Snowmobiles Routes	All	Ongoing	Several local snowmobile clubs in conjunction with Oregon State Snowmobile Association (OSSA) maintain groomed snowmobile routes through a special use permit. All groomed routes are on roads that are open to vehicular traffic during the summer. Designated routes include all or part of the following roads within East Face: 43, 43020, 4315, 4316, 4330, 7312. In the event that groomed snowmobile routes are going to be plowed for winter logging operations, recreation staff and the snowmobile clubs will amend the annual operating plans for the grooming permits to designate alternate routes.
Outfitter/Guide Permits	All	Ongoing	Fly fishing services provided under a temporary Outfitter & Guide permit. Depending on the body of water they are attempting to fish, access may be limited due to management activities.
OHV Use – Current	All	Ongoing	Use is permitted on green dot only roads within Indian Creek-Gorham Butte and Clear Creek Cooperative Closure areas during rifle bull elk season. Use is permitted on green dot only roads in the Dry Beaver-Ladd Canyon Closure area year round. In the remainder of the area and outside of the hunting season closure period use is permitted on open and closed roads and cross-country. Use during hunting seasons increases.
<b>Roads &amp; Trails</b>			
Travel Management Plan (TMP)	All	2016-2020	To comply with the 2005 Travel Management Rule (TMR) the WWNF began a planning effort to designate roads, trails, and areas for public motor vehicle use in 2007. The 2012 WWNF TMP FEIS displays a range of alternatives meeting the intent of the TMR and the effects of implementing them. Because this planning effort is on-going and expected to occur within the reasonably foreseeable future (next 5 years), the range of

Project Name	SWS	Year	Activity
			alternatives from the TMP FEIS was considered the best representation of a reasonable range of potential effects that could occur upon implementation for use in this analysis. While a specific number of miles of designated routes (roads and trails) will not be known until a decision is made, the analysis from the WWNF TMP FEIS indicates that designated routes could range from a potential high of approximately 6,700 miles (Alternative 4) to a potential low of approximately 2,600 miles (Alternative 6) and x-country motor vehicle use would be managed. Once a final decision is made, the roads, trails, and areas designated for motor vehicle use by the public will be displayed on an MVUM and x-country motor vehicle travel will be regulated. The no action alternative will not be considered in this analysis as it does not meet of the purpose and need for compliance with the TMR.
73 Road Resurfacing	Upper Anthony, Middle North Powder, Lower North Powder	2015-2016	County will be resurfacing the 73 Road.
<b>Range Allotments</b>			
Lobo Allotment	Upper Wolf Cr., Lower Anthony Cr.	Ongoing	The Lobo allotment is 15,664 acres in size and is an active cattle allotment.
Indian/Crane Allotment	Upper Anthony, Lower Anthony, Middle North Powder,	Vacant	This allotment is vacant and there are no plans to restock within the next 5 years.
Tucker Flat (BLM) Allotment	Lower North Powder	Ongoing	39 acre allotment with 3 AUMs – cow/calf
Shaw Mountain (BLM) Allotment	Upper Wolf Cr., Upper Ladd Cr., Jimmy Cr.	Ongoing	331 acre allotment with 16 AUMs – cow/calf
Tamarack Mountain (BLM) Allotment	Upper Ladd Cr., Jimmy Cr.	Ongoing	700 acre allotment with 34 AUMs – cow/calf
<b>Water Quality and Fisheries</b>			
Limber Jim Instream	Limber	2015-	Large wood placement, planting, culvert

Project Name	SWS	Year	Activity
Enhancement Project	Jim Creek	2016	replacement, and dispersed recreation site management, in a portion of north fork, south fork and main stem Limber Jim Creeks.
<b>Wildlife Enhancement</b>			
Dry Beaver Ladd Canyon Cooperative Closure Area	Limber Jim Creek, Lower Beaver Creek	Ongoing	Year round closure area, green dot system for elk habitat enhancement.
Indian Creek Gorham Butte Cooperative Closure Area	Middle North Powder, Lower North Powder	Ongoing	Green dot closure area, limited to roads marked with green dot only during 3 days prior to the first bull elk season through the end of the second bull elk season.
Clear Creek Cooperative Closure Area	Upper Wolf Creek	Ongoing	Green dot closure area, limited to roads marked with green dot only during 3 days prior to the first bull elk season through the end of the second bull elk season.
<b>Mining</b>			
Mining	Upper Wolf Creek	Ongoing	There are no approved plans of operation. The area is open to mineral entry.
<b>Private Land Activities</b>			
Commercial Harvest		2015-2020	2,017 acres of commercial harvest activities are currently occurring on adjacent private lands with additional acreages likely to be harvested in the East Face area in response to the Joint Chief's Initiative and the CWS Pilot project.
Fuels Reduction		2015-2020	Currently 3,643 acres of adjacent private lands are receiving precommercial thinning treatments, slashbusting, machine piling, and pile burning treatments with an additional 2,200 acres scheduled to be funded and begin in 2015/2016.
Grazing	None	None	None
Roads	None	None	No known new road construction planned.

## Cumulative Effects Determination Tables

### Silviculture/Vegetation Management

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management	Reduction of invasive species competition	Yes	Yes	No	While these activities would improve vegetative health and sustainability due to removal of competition from invasive species, it would be difficult to measure at the landscape level.
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Moving stands toward HRV at the landscape level for structure and species  Improve Landscape resiliency	Yes	Yes	Yes	Area is severely deficit in OFSS in all PVGs and slightly below HRV in moist OFMS and SE. It is also below HRV in stand initiation (SI) in both moist and cold PVGs. The area is severely above HRV in all PVGs in understory reinitiation (2-5 times above the upper HRV ranges). East Face restores OFMS to OFSS and accelerates UR toward OF (5,464-7,713 acres). Alternatives 2, 4, and 5 also convert some UR (89-328 acres) to SI which is below HRV. This in combination with the thinning being accomplished in the Elkhorn Wildlife Area, the Limber Jim/Muir area, and the Ladd Canyon/RMEF area will also contribute not only to landscape health and sustainability but also accelerate stands toward HRVs for all stand structures.
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>	Reintroduction of fire  Removal of suppressed understory	Yes	Yes	Yes	Prescribed fire within all of these project areas including will reduce the number of suppressed seedlings competing for site resources at the landscape level and improve stand health and sustainability.



Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Special Uses: <ul style="list-style-type: none"> <li>• La Grande Municipal Watershed</li> <li>• Snowtel /surveys</li> <li>• OTEC Powerlines</li> <li>• Irrigation Ditches</li> <li>• Phone/internet lines</li> <li>• Water system upgrades</li> <li>• O/G Permits</li> </ul>		Yes	Yes	No	These activities would not create a measurable effect on vegetative health.
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	
Fisheries Enhancement – LJ Instream Project		Yes	Yes	No	
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities	Improve Landscape resiliency	Yes	Yes	Yes	Thinning and fuel reduction activities on adjacent private lands would contribute to improving landscape resiliency and vegetative health reducing the potential susceptibility to insect and disease epidemics that can begin on any ownership and spread to adjacent ownerships.

## Old Growth

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>• Ladd Canyon/RMEF PCT</li> <li>• EWA Timber Sales</li> </ul>	Reduction in structure complexity  Long term greater average dbh	Yes	Yes	Yes	Proposed commercial treatments within OFMS will reduce the complexity of the stand in the short term and potentially move the multi-story to a single story condition. However, there is very little OFMS structure within the EWA. PCT treatments simplify understory condition and long term contributes to larger average dbh. PCT treatments do not remove stands from current structural stage and are not proposed within Old Growth.
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>• LJ/Muir Fuels Reduction</li> </ul>		Yes	Yes	No	
Special Uses: <ul style="list-style-type: none"> <li>• La Grande Municipal Watershed</li> <li>• Snowtel /surveys</li> <li>• OTEC Powerlines</li> <li>• Irrigation Ditches</li> <li>• Phone/internet lines</li> <li>• Water system upgrades</li> <li>• O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Fisheries Enhancement – LJ Instream Project		Yes	Yes	No	
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities	Reduction in OFMS				Private land activities are expected to continue to maximize commercial output and mitigate wildfire danger. These treatments are not expected to maintain Old growth conditions and old growth habitat is expected to decrease on private land.

**Forest Plan Amendments for treatment in late/old structure stands. Treatments will restore multi-strata stands to single-strata stands.**

<b>Amendment # and Date</b>	<b>Project Name</b>	<b>Total Acres of Analysis Area</b>	<b>Acres of LOS* Proposed for Treatment</b>	<b>Acres of LOS Treated</b>	<b>Type of LOS</b>	<b>Treatment Prescription**</b>	<b>Total Acres of LOS in OFMS*** in Analysis Area Pre-implementation</b>	<b>Total Acres of LOS in OFSS*** in Analysis Area Pre-implementation</b>
17 2/22/1995	Washington Watershed EIS	14,000	466	466	OFMS	HIM & HTH	1,200	0
24 07/14/1997	Dry Melon Timber Sale	34,217	34	34	OFMS	16ac= HSL 18ac=HSV	1,207	44
32 12/15/2004	Mt. Emily Fuels Reduction EA	7,295	143	110	OFMS	HTH	2,256	0
34 6/28/2006	Mt. Emily II EA	7,295	221	211	OFMS	19 ac = Small Diameter Treatments 202 ac= HTH	2,256	0
35 2/22/2007	Bald Angel Vegetation Management EA	36,700	1,237	629	OFMS	HIM & HTH	2,631	17
37 4/22/2008	Medical Springs WUI EA	2,900	502	501	457= OFMS 45=OFSS	HTH	619	55
38 8/18/2008	Horsefly Vegetation Management EA	17,070	124	124	95= OFMS 29=OFSS	HTH	1,212	71
39 4/9/2010	Sugar Vegetation Management EA	10,621	398	370	OFMS to SS	HIM & HTH	2,864	232
40	Tremble Aspen Restoration EA	(HRV analysis performed for all subwatershe	46	41	OFMS	Liberation (aspen release from conifer overstory)	17,214	1,310

Amendment # and Date	Project Name	Total Acres of Analysis Area	Acres of LOS* Proposed for Treatment	Acres of LOS Treated	Type of LOS	Treatment Prescription**	Total Acres of LOS in OFMS*** in Analysis Area Pre-implementation	Total Acres of LOS in OFSS*** in Analysis Area Pre-implementation
		ds affected by project)						
42 11/30/2011	Cove II WUI	20,377	379	340	157-MS to MS 155-MS to SS 28-SS to SS	HTH, HIM, HFU, FFU, PCT	3,876	35
44	Snow Basin Vegetation Mgmt EIS	28,545	626	346	114 - OFMS 232-OFSS	HTH	3,428	923
	East Face Vegetation Management Project	47,621	429 - 770		OFMS to SS	HTH, HIM, HSA	5,780	676

\* LOS – late/old structure or interchangeable with old growth structure

\*\* Treatment Prescriptions – HTH-commercial thinning; HIM-improvement cuts; HFU & FFU-commercial and non-commercial fuel reduction, HSA-sanitation harvest, PCT-precommercial thinning, HSV-salvage, HSL-selection harvest.

\*\*\* OFMS- old forest multi-stratum structure OFSS- old forest single stratum structure

## Big Game

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>		Yes	No	No	
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	No	No	
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting	Harassment & Impacts to security habitat	Yes	Yes	Yes	Firewood cutting within this area would be increased with this project clearing and re-opening roads that have grown closed which will provide for increased disturbance from noise, vehicles, and people reducing security habitat during firewood season.
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use	Harassment & Impacts to security habitat	Yes	Yes	Yes	Clearing and re-opening roads that have grown closed could provide for increased disturbance from noise, vehicles, and people reducing security habitat
Roads & Trails - TMP		Yes	Yes	No	The future TMP in combination with the post-sale road management plan in this project could reduce road densities and will manage cross-country motor vehicle use thereby

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					reducing disturbance from motorized vehicles, off-trail OHV's and subsequently increasing security habitat for elk.
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments	Forage competition  Displacement of elk	Yes	Yes	Yes	Competitive displacement of elk by cattle. Diet overlap between cattle and elk has been described, and is most prominent when forage resources are limited.
Fisheries Enhancement – LJ Instream Project		Yes	No	No	
Wildlife Enhancement – Cooperative Closure Areas	Increase seasonal big game security habitat	Yes	Yes	Yes	Increase big game security habitat during hunting seasons, longer in Alternative 5
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		Yes	No	No	

## Fire and Fuels Management

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Decreased Fire Behavior Potential	Yes	Yes	Yes	<p>The effects of the action alternatives contribute to the trend toward a decrease in “fire behavior potential” begun by previous treatments in the area.</p> <p>Ongoing projects on both public and private lands on the east face of the Elkhorn’s, have very similar treatments to those proposed in this document (commercial and non-commercial thinning, improvement cuts, and surface fuels reduction treatments).</p> <p>In combination with the East Face project these projects increase safe firefighting options for wildfire suppression no matter where the fire originates (State, private, or federal lands (including BLM). Increases probability for control and ability to keep fire smaller in size.</p>
Fuels Reduction & RxBurning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>	Return to historic fire return interval.  Air quality impacts to local communities.	Yes	Yes	Yes	<p>The cumulative effects of ongoing and future projects, combined with the proposed activities, move several thousand acres of fire adapted plant communities (fire regimes 1 and 3) closer to historic conditions at the landscape level.</p> <p>Prescribed burning could produce smoke that may impact nearby sensitive areas. However, smoke emissions could be</p>



Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					managed to meet the Clean Air Act.
<b>Special Uses:</b> <ul style="list-style-type: none"> <li>• La Grande Municipal Watershed</li> <li>• Snowtel /surveys</li> <li>• OTEC Powerlines</li> <li>• Irrigation Ditches</li> <li>• Phone/internet lines</li> <li>• Water system upgrades</li> <li>• O/G Permits</li> </ul>	Loss of key watershed components.	Yes	Yes	Yes	<p>La Grande Municipal watershed is adjacent to the project area. The actions proposed under this document combined with Limber Jim, Horse Fly and Ladd TSI will reduce the potential for a wildfire to burn into the watershed.</p> <p>ROW work by OTEC to protect the power line will enhance the proposed DFPZ's.</p>
Recreation- Dispersed Camping/Cabins	Potential for human caused fires.	Yes	Yes	No – only 3 fires in last 45 years	<p>Human caused fires are a minor part of the fire starts within the area. There are many dispersed camp sites, thus the potential for fire starts from vehicles, campfires, and smoking exist.</p> <p>The effects of dispersed camping in combination with East Face will be that the fuel reduction treatments in and near dispersed camping sites will reduce the likelihood of escaped wildfires.</p>
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting	<p>Potential for human caused fires.</p> <p>Additional down fuel removal and reduced emissions</p>	Yes	Yes	Yes	<p>Fire wood cutting would most likely be focused on cutting in piles in the fuel reduction areas or untreated areas along DFPZs, this will further reduce down fuels and the potential emissions from pile burning. There is a slight chance that firewood cutting during the summer months may also contribute to potential human caused fires ignited in the project area.</p>
Recreation – Mountain Bike Trails		Yes	Yes	No	

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Recreation – OHV Use	Improved Access  Potential for fire starts from cross-country travel	Yes	Yes	No	Good access for people, OHVs and vehicles in the project area.
Roads & Trails - TMP	Reduced potential for human caused fires.	Yes	Yes	Yes	Increasing access by opening up stands and roads may contribute to an increased potential for human caused fires. Implementation of the travel management rule designating roads, trails, and areas for public motor vehicle use would manage cross-country motor vehicle use and provide a means of enforcement on roads and trails not designated for motor vehicle use.
Roads & Trails – 73 Road Resurfacing	Potential for human caused fires.	Yes	Yes	No	The road resurface will improve speed and ease of access for suppression.
Grazing Allotments	Reduction in fine fuel loadings	Yes	Yes	Yes	Grazing reduces the fine fuel loading in the natural openings improving the efficacy of fuel reduction actions in DFPZs in East Face alternatives. Active allotments may have the grass reduce to a level that reduces fire spread rates. Livestock grazing is not expected to impede progression toward historic fire return intervals.
Fisheries Enhancement – LJ Instream Project		Yes	Yes	No	
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	Roads not available for public motor vehicle use will be available for firefighting forces or will have gates with USFS locks.
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		Yes	Yes	Yes	Ongoing projects on private lands on the east face of the Elkhorn's, have

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					<p>very similar treatments to those proposed in this document (commercial and non-commercial thinning, improvement cuts, and surface fuels reduction treatments).</p> <p>In combination with the East Face project these projects increase safe firefighting options for wildfire suppression no matter where the fire originates (State, private, or federal lands (including BLM). Increases probability for control and ability to keep fire smaller in size.</p>

## Socio-Economics

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Contributes jobs and investments to local communities	Yes	Yes	Yes	Contributes to the investments supporting local timber woodworker industries and businesses
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>	Contributes jobs and investments to local communities	Yes	Yes	Yes	Contributes to the investments supporting local timber woodworker industries and businesses
Special Uses:		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – Mountain Bike Trails				No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	
Fisheries Enhancement – LJ Instream Project		Yes	Yes	No	
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities	Contributes jobs and investments to local communities			Yes	Contributes to the investments supporting local timber woodworker industries and businesses

## Water Quality, Fisheries Habitat, and Populations

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Modification of ECA, sediment delivery	Yes	Yes	Yes	Logging on state or private land may have cumulative effects due to lack of riparian and stream buffers protection.
Fuels Reduction & RxBurning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>	Sediment delivery	Yes	Yes	Yes	Limber Jim Fuels reduction project opens 47 miles of closed road, 12 miles are within RHCA buffers.
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	OTEC powerline on the 73 road may require some vegetation removal.  There are two irrigation stream diversions in the project area. The Couganhour and Carnes irrigation diversions are both located on Anthony Creek in the Lower Anthony Creek Subwatershed. The Carnes irrigation diversion is on National Forest and the Couganhour is on land administered by the Bureau of Land Management (BLM). Both irrigation ditches are currently unscreened. There will be no water withdrawals in proposed alternatives for East Face.
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	Fire wood cutting is prohibited within RHCAs. Fire wood cutting takes place in uplands outside of RHCAs due to restrictions and access. Detectable cumulative effects would not occur.
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV		Yes	Yes	No	Not detectable at the

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Use					subwatershed scale.
Roads & Trails - TMP		Yes	Yes	Yes	Not detectable at subwatershed scale, the Wallowa-Whitman Travel Management Plan is planned for completion in 2016 or 2017. OHV use will be regulated and will prevent or minimize direct and indirect effects to water quality and fisheries resources resulting in beneficial effects.
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments	Removal of riparian vegetation, streambank damage, and sediment delivery	Yes	Yes	Yes	There are five grazing allotments within the cumulative effects analysis area. Three are BLM and two are Forest Service, one Forest Service allotment is vacant and there are no plans to restock within the next five years. Improved management (primarily fencing and grazing strategies) for domestic livestock grazing have reduced impacts to riparian areas and stream channels due to the implementation of PACFISH/INFISH standards and guidelines. Vegetation management activities in East Face may open up stands and allow livestock to move through currently dense stands more easily. The East Face project will increase sediment yield to streams in association with ground disturbing activities in RHCAs and streams such as road reconstruction in RHCAs, culvert placement and removal, and number stream crossings on open, closed and temporary roads including Class I fish stream crossings. All other

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					activities are away from streams, no riparian vegetation would be removed, and no streambank disturbance would occur and would not contribute to cumulative effects from grazing.
Fisheries Enhancement – LJ Instream Project		Yes	Yes	No	Limber Jim in stream large wood restoration, fish passage enhancement and road decommissioning will enhance fish habitat in that watershed.
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities	Removal of riparian vegetation, and sediment delivery	Yes	Yes	Yes	<p>Commercial harvest of 2,017 acres are currently occurring on adjacent private lands in the East Face area in response to Joint Chief's initiative and the CWS Pilot project. Because harvest on these lands may not have the stream and riparian buffers to protect water quality and fish, there is potential for increase in sediment yield to stream channels including fishbearing streams and potential for removal of riparian vegetation.</p> <p>In addition, 3,643 acres of adjacent private lands are receiving precommercial thinning treatments, slashbusting, machine piling, and pile burning treatments currently with an additional 2,200 acres scheduled to be funded and begin in 2015/2016. These areas could have the same effect described above under</p>

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					commercial harvest on private lands if riparian buffers are inadequate.

## Soils

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>		Yes	No		
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	No		
Special Uses:		Yes	Yes	No	Not anticipated to create new or additional DSCs
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting	User built roads	Yes	Yes	Yes	As firewood becomes more difficult to find firewood gatherers are building firewood roads to get farther to new wood sources. Opening roads for use in East Face could increase these user built roads within the area.
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP	Reduce off-road impacts	Yes	Yes	Yes	Managing off road motor vehicle use would allow current user built roads and trails to recover and revegetate reducing DSCs within the area.
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	
Fisheries Enhancement – LJ Instream Project		Yes	Yes	No	
Wildlife		Yes	Yes	No	



Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Enhancement – Cooperative Closure Areas					
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		Yes	No		

## PETS – Wildlife

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Reduction of snag habitat Disturbance to habitat	Yes	Yes		<p>PCT treatments connected with RMEF project are not expected to impact PETS. Commercial treatments within the Elkhorn Wildlife Area will potentially impact snag densities, reducing habitat for Lewis' woodpecker, white-headed woodpecker and fringed myotis.</p> <p>Commercial treatments in moist Douglas-fir stands also have the potential to reduce habitat for terrestrial mollusks like the fir pinwheel.</p>
Fuels Reduction & RxBurning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	No	No	
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing		Yes	Yes	No	

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
/Snowmobiles					
Recreation -Firewood Cutting	Reduction of snag habitat	Yes	Yes	Yes	Temporarily opening roads for harvest activities can result in a temporary increase in firewood cutting along the roads reducing habitat for Lewis' woodpecker, white-headed woodpecker and fringed myotis in those areas.
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments	Increased grazing impacts	Yes	Yes		Reducing canopy cover will increase forage availability, increasing grazing activities. Heavy grazing activities reduces food availability for the intermountain Sulphur, Yuma skipper and Western bumblebee.
Fisheries Enhancement – LJ Instream Project		Yes	No		
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities	Decreased habitat				Harvest activities on private lands are expected to result in decreased habitat for any PETS species that occurs on those lands.

## PETS – Plants

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>		Yes	No	No	
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	No	No	
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments	Trampling impacts to habitat	Yes	Yes	Slight potential	May increase cattle access into new areas which may impact sensitive plant habitat.
Fisheries Enhancement – LJ Instream Project		Yes	No	No	
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		Yes	Yes	No	

## Access and Travel Management

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management	On-going Control of Roadside weed populations	Yes	Yes	Yes	In addition to the prevention measures for the East Face project on-going noxious weed management of existing populations would improve the ability to control noxious weeds in the project area.
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Impacts on forest roads	Yes	Yes	Yes	Additional haul on USFS roads from EWA harvest activities.
Fuels Reduction & RxBurning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	Yes	No	
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting	Potential for additional unauthorized roads	Yes	Yes	No	
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP	Minimize impacts and maintenance needs to roads not designated for use	Yes	Yes	Yes	Motor vehicle use restricted to designated roads, trails, areas. Potential to increase impacts to
Roads & Trails – 73 Road Resurfacing		No	Yes	No	
Grazing Allotments		Yes	Yes	No	
Fisheries		Yes	Yes	No	

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Enhancement – LJ Instream Project					
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities	Impacts to roads from haul	Yes	Yes	Yes	May have haul overlap which could impact road conditions.

### Management Indicator Species – Terrestrial

#### Goshawk and Pileated Woodpeckers (see also LOS)

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Reduce complexity of habitat	Yes	Yes	Yes	<p>Commercial treatments from EWA timber sales will reduce the complexity of the stand in the short term and reduce the likelihood of goshawks using the area for nesting.</p> <p>Precommercial thinning is expected to have minimal impact on pileated woodpeckers as it will reduce understory structure, and maintain canopy closure. Precommercial thinning would reduce stress on overstory trees, creating less future snags, however model runs have shown these treatments lead to higher average diameters within stands and on average, larger snags.</p> <p>Commercial treatment and fuel reduction treatments within the Elkhorn Wildlife Area will have an impact on pileated habitat as canopy cover would be reduced and stand</p>

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					structure simplified, though commercial treatments are expected to result in larger snags in the long term (50+ years).
<b>Fuels Reduction &amp; Rx Burning</b> <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	Yes	Yes	Commercial treatments from timber sale will reduce the complexity of the stand in the short term and reduce the likelihood of goshawks using the area for nesting.
<b>Special Uses:</b> <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – Mountain Bike Trails				No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	Ongoing and future livestock grazing is expected to have minimal effect on suitable habitat, Additional grazing may occur in treated stands within the project area but is not expected to alter suitable habitat as cattle do not impact down wood, canopy cover or snag levels.
Fisheries Enhancement – LJ Instream Project		Yes	Yes	No	
Wildlife		Yes	Yes	No	

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Enhancement – Cooperative Closure Areas					
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities	Reduce available habitat	Yes	Yes	Yes	Private land activities are expected to continue and manage stands primarily out of commercial and wildfire mitigation interests. Treatments will likely not incorporate goshawk and pileated woodpecker habitat needs and would reduce the available habitat.

#### Management Indicator Species – Terrestrial

##### American Marten (see also LOS)

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Reduce canopy closure	Yes	Yes	Yes	Commercial treatments from EWA timber sales will reduce canopy closure which may impact marten use of the area; however, very little marten habitat occurs in this area.
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	No	No	
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Recreation – Mountain Bike Trails				No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	Ongoing and future livestock grazing is expected to have no effect on marten habitat because cattle tend to avoid areas with high amounts of down wood.
Fisheries Enhancement – LJ Instream Project		Yes	Yes	No	
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		Yes	Yes	No	Generally no marten source habitat on private lands.

**Management Indicator Species – Terrestrial  
Primary Cavity Excavators**

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	<ul style="list-style-type: none"> <li>Reduction of snag habitat</li> <li>Long term increase in average snag diameter</li> </ul>	Yes	Yes	Yes	<p>PCT treatments are expected to have a long term effects on average diameter size within a stand and eventually, create larger snags (70 years+)</p> <p>Commercial treatment within the EWA is focused on elk habitat (increased forage) and will likely reduce the amount of available snag habitat. Prescribed burning within the</p>



Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					EWA is also likely to create hard snags and consume other, older snags.
<b>Fuels Reduction &amp; Rx Burning</b> <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	Yes	Yes	Prescribed burning within the EWA is also likely to create hard snags and consume other, older snags.
<b>Special Uses:</b> <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation - Firewood Cutting		Yes	Yes	Yes	Firewood cutting will continue to reduce available snags and logs, but the effect is limited to areas adjacent to open roads. Roads that are temporarily open for harvest activities will temporarily increase firewood cutting activities and snag densities in those areas will go down, though it is illegal to take snags > 21 inch dbh.
Recreation – Mountain Bike Trails				No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	Ongoing and future livestock grazing is expected to have no

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					effect on snag and log habitats.
Fisheries Enhancement – LJ Instream Project		Yes	No	No	
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities	Reduction of snag habitat	Yes	Yes	Yes	<p>Private land activities focused on commercial wildfire mitigation interests would reduce available snags. Stands will be managed for health, reducing available snags.</p> <p>PCT treatments are expected to have a long term effects on average diameter size within a stand and eventually, create larger snags (70 years+)</p>

#### Neotropical Migratory Birds (NTMB)

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Opening canopy	Yes	No		
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	No	No	
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> </ul>		Yes	Yes	No	

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
<ul style="list-style-type: none"> <li>• OTEC Powerlines</li> <li>• Irrigation Ditches</li> <li>• Phone/internet lines</li> <li>• Water system upgrades</li> <li>• O/G Permits</li> </ul>					
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	
Fisheries Enhancement – LJ Instream Project		Yes	No		
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		Yes	No		

## Rangeland Resources/Grazing

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management	Reduce forage competition	Yes	Yes	Yes	This project focuses on invasive non-native vegetation treatment to reduce impacts to native vegetation and soil resources. Reducing or preventing establishment of invasive species will allow native plants to maintain dominance, providing forage for native species, cover for migratory birds and small mammals, and protect soil from surface erosion.
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>		No	No		
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		No	No		
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	No	
Recreation- Dispersed Camping/Cabins	Increased cattle access into campsites and campgrounds	Yes	Yes	No	Fuel reduction activities would remove barriers to cattle passage making areas now accessible creating the potential for trespass and recreation conflicts with cattle in recreation areas.
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use	Scattering livestock	Yes	Yes	No	Fuel reduction activities and opening previously closed roads would make

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					remove barriers to OHV use allowing OHVs into areas not previously accessible which may create livestock harassment issues.
Roads & Trails - TMP	Reduced livestock harassment	Yes	Yes	No	Implementation of the travel management plan would restrict motor vehicle use to designated roads, trails, and areas. Managing cross-country travel and keeping motor vehicle use to a designated system would reduce potential livestock harassment.
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	
Fisheries Enhancement – LJ Instream Project		No	No		
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		No	No		

### Noxious Weeds

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management	Reduction in the extent and spread of invasive plant populations	Yes	Yes	Yes	Reduces the extent and amount of invasive plant sites throughout the project area.
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>	Ground disturbance or transportation of non-native plant material	Yes	No	No	Because there is no overlap in space there is no measurable cumulative effect from these vegetation management activities.
Fuels Reduction & Rx Burning	Ground disturbance or	Yes	No	No	Because there is no overlap in space there is no measurable

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
<ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>	transportation of non-native plant material				cumulative effect from these fuels management activities.
<b>Special Uses:</b> <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>	Ground disturbance or transportation of non-native plant material	Yes	Yes	Yes	Maintenance and repair of most Special use facilities can create situations that favor the establishment and spread of invasive plants by disturbing ground and carrying seeds to uninfested areas. Regional standards along with noxious weed requirements which are part of the special use permits would help to reduce the risk of this potential effect. East Face activities overlap many of these sites and would increase the potential for spread of invasive species.
Recreation- Dispersed Camping/Cabins	Movement and introduction of invasive plant material	Yes	Yes	No	Minimal risks involved with dispersed camping due to the movement and spread of invasive plant material by people and equipment. This risk is further minimized by a focused treatment of invasive plants in and around camping and gathering areas.
Recreation- x-Country Skiing /Snowmobiles	No potential effects due to timing of activity	Yes	Yes	No	Winter use is unlikely to create ground disturbance or to spread invasive plant material; therefore, there are no measurable cumulative effects.
Recreation -Firewood Cutting	Movement and introduction of invasive plant material	Yes	Yes	No	Minimal risks involved with firewood gathering due to the limited nature of the activity and the location near already established roads. This risk is further minimized by a focused treatment of invasive plants in commonly used gathering areas.
Recreation – Mountain Bike Trails	Movement and introduction of invasive plant material	Yes	Yes	No	Minimal risks involved with mountain bikes due to the movement and spread of invasive plant material by people and equipment.
Recreation – OHV Use	Movement and introduction of invasive plant material	Yes	Yes	Yes	Unregulated use of off highway vehicles poses a risk to the establishment and spread of non-native species due to the movement of plant material on equipment and the ability to introduce these materials to random areas that are difficult to identify for treatment. Re-opening roads and opening up stands with fuel reduction treatments in the East Face project increases the potential for introduction and spread of invasive plant material.
Roads & Trails –	Decrease in	Yes	Yes	Yes	Designating roads, trails and

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Travel Management Plan	possibility of spread and new introduction				areas has the potential improve the compliance with the East Face post sale road management plan because use will only be allowed on designed roads and trails. Limiting this use will minimize the potential introduction and spread of noxious weeds.
Roads & Trails – 73 Road Resurfacing	Increase in possibility of spread and new introduction	Yes	Yes	Yes	Ongoing road maintenance creates situations that favor the spread of invasive plants by disturbing roadsides and can increase the establishment by carrying seeds to un-infested areas. Quite a few of the East Face activities will be occurring along the 73 Road because it has been identified as a strategic fuel reduction corridor; there is a potential for invasive introduction and spread.
Grazing Allotments	Ground disturbance or transportation of non-native plant material	Yes	Yes	Yes	Cattle are vectors for invasive plant seeds. Opening up the forest with fuel reduction practices along with creating seed beds through ground disturbance increases the potential for cattle to transport noxious weed seeds into new areas and increase spread.
Fisheries Enhancement – LJ Instream Project	Ground disturbance or transportation of non-native plant material	Yes	No	No	No overlap of space
Wildlife Enhancement – Cooperative Closure Areas	Reduction in unregulated road use	Yes	Yes	Yes	Travel management would reduce the potential to spread invasive plant material on vehicles and personnel and reduce the ground disturbance from user created roads and trails. Extending the closure periods in Alternative 5 in the East Face project would manage vehicle traffic during very heavy use period (all hunting seasons) and reduce the potential for spread and introduction.
Mining	No approved plans of operation	No	No	No	No approved plans of operation
Private Land Activities	Equipment and materials travelling on road systems shared by project.	Yes	Yes	Yes	Potential for weed seeds to be carried from private land which may not have an active invasive plant management program to locations that intersect with project activities.

## Recreation

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	East Face project activities in combination with this activity do not create a cumulative impact on recreation or permitted uses.
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>		No	No	No	
Fuels Reduction & RxBurning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>	Smoke Intrusion	Yes	Yes	Yes	Although this project area does not overlap in time and space, there is a potential for smoke generated during prescribed burning activities in the Limber Jim project to combine with smoke from East Face burning and impact campers and people using the East Face area.
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>	Increased protection for power line	Yes	Yes	No – except Power line	With the exception of the power line, East Face project activities in combination with the remainder of these special uses do not create a cumulative impact on recreation or permitted uses.  East Face fuel reduction activities in combination with the power line fuel reduction activities will increase the effectiveness of reducing fire behavior along the power lines.
Recreation- Dispersed Camping/Cabins	Increased protection for Floodwater Flats recreation residences	Yes	Yes	Yes	With the exception of the cabins, East Face project activities in combination with this activity do not create a cumulative impact on recreation or permitted uses.
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	East Face fuel reduction activities in combination with continued cabin owner fuel reduction activities will increase the effectiveness of reducing fire behavior adjacent to Floodwater Flats.
Recreation -Firewood Cutting		Yes	Yes	No	
Recreation – Mountain Bike Trails		Yes	Yes		
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP	Reduce motor vehicle access  Manage cross-country	Yes	Yes	Yes	Once implemented, the travel management plan would manage cross-country motor vehicle use even in areas where the fuel reduction activities have reduced obstacles and motor vehicles



Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
	motor vehicle access				could travel. It will also enhance the effectiveness of the regulated cooperative closure areas within the project area and reduce potential user conflicts enhancing non-motorized recreation opportunities.
Roads & Trails – 73 Road Resurfacing	Delays on 73 Road	Yes	Yes	Yes	Log truck traffic and resurfacing activities could create long delays for recreationists coming into the area during the summer months. Could result in some additional safety hazards along the 73 road, especially during a busy summer season.
Grazing Allotments	Cattle accessing more ground and dispersed sites	Yes	Yes	Yes	Fuel reduction activities and opening closed roads could provide more access for cattle to areas within the East Face area and could end up with cattle within dispersed camp sites or developed areas.
Fisheries Enhancement – LJ Instream Project		No	No	No	
Wildlife Enhancement – Cooperative Closure Areas	Improves non-motorized hunting experience  Reduces motorized hunting experience	Yes	Yes	Yes	Extension of the closure period in Alternative 5 in the cooperative closure areas would improve non-motorized hunting experiences while reducing some opportunities for motorized hunting during all big game hunting seasons.
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		No	No	No	

## Scenery/Visuals

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	
Veg Management <ul style="list-style-type: none"> <li>Ladd Canyon/RMEF PCT</li> <li>EWA Timber Sales</li> </ul>		Yes	Yes	Yes	<p>The Ladd Canyon project is all precommercial thinning, in the northern portion of the East Fact project area this will result in additional acres of reduced stocking levels promoting growth of desirable species, reduce disease, the threat of future insect outbreaks and ladder fuels that increase fire intensity and the occurrence of crown fires. This would also result in a texture change to the existing highly established textured patterns in the dense forest stands resulting in a more varied pattern.</p> <p>The EWA prescriptions would improve the scenic character by moving stands toward the historic range of variability. More open stands of species compositions that are more fire resistant would improve the scenic stability. Will result in new skid trails, new or reconstructed roads, fresh tree stumps and slash, blackened tree boles, disturbance to the ground resulting from mechanical activity of cutting trees, and changes to the textured landscape pattern.</p> <p>Overall, the reduction of fuels and thinning to enhance large tree growth would benefit long term scenic quality by providing a more stable, sustainable forest which is typical of</p>

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
					vegetative character types found in the Elkhorn Mountains landscape character type.
Fuels Reduction & Rx Burning <ul style="list-style-type: none"> <li>LJ/Muir Fuels Reduction</li> </ul>		Yes	Yes	Yes	Same as EWA above in the Ladd Canyon 43 Road area.
Special Uses: <ul style="list-style-type: none"> <li>La Grande Municipal Watershed</li> <li>Snowtel /surveys</li> <li>OTEC Powerlines</li> <li>Irrigation Ditches</li> <li>Phone/internet lines</li> <li>Water system upgrades</li> <li>O/G Permits</li> </ul>		Yes	Yes	Yes/No	Along the Elkhorn Scenic Byway - OTEC Powerline fuel reduction work in combination with the East Face project would create some additional impacts to scenery resources in the foreground.  None of the other special uses would affect scenery resources.
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	
Recreation - Firewood Cutting	Stumps in the foreground near roads	Yes	Yes	Yes	There is a potential for firewood cutting to increase the number of stumps within the foreground of all of the scenic areas in addition to those created by the East Face project. Firewood stumps may be more noticeable because they would not be cut as close to the ground.
Recreation – Mountain Bike Trails		Yes	Yes	No	
Recreation – OHV Use		Yes	Yes	No	
Roads & Trails - TMP		Yes	Yes	No	
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	
Grazing Allotments		Yes	Yes	No	
Fisheries Enhancement – LJ Instream Project		No	Yes	No	
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Mining		Yes	Yes	No	No approved plans of operation
Private Land Activities		Yes	Yes	Yes	Seen from the 73 road and I-84. Effects same as those described for Veg Management above.

#### Wilderness, IRAs, and Undeveloped Areas

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Noxious Weed Management		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Veg Management		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Fuels Reduction & Rx Burning		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Special Uses: <ul style="list-style-type: none"> <li>• La Grande Municipal Watershed</li> <li>• Snowtel /surveys</li> <li>• OTEC Powerlines</li> <li>• Irrigation Ditches</li> <li>• Phone/internet lines</li> <li>• Water system upgrades</li> <li>• O/G Permits</li> </ul>		Yes	Yes	Yes/No	<p>The OTEC Powerline fuel reduction work has the potential to impact apparent naturalness in the southwest portion of the undeveloped area defined in this project area. Clearing in combination with the East Face project fuel reduction work would create some additional impacts to apparent naturalness in this area.</p> <p>None of the other special uses would affect Undeveloped area resources.</p>
Recreation- Dispersed Camping/Cabins		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Recreation- x-Country Skiing /Snowmobiles		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Recreation - Firewood Cutting		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Recreation – Mountain Bike Trails		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas

Project	Potential Effects	Overlap in:		Measurable Cumulative Effect?	Effects
		Time	Space		
Recreation – OHV Use		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Roads & Trails - TMP		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Roads & Trails – 73 Road Resurfacing		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Grazing Allotments		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Fisheries Enhancement – LJ Instream Project		No	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Wildlife Enhancement – Cooperative Closure Areas		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Mining		Yes	Yes	No	Does not overlap Wilderness, IRA, or Undeveloped areas
Private Land Activities		Yes	Yes	Yes	Does not overlap Wilderness, IRA, or Undeveloped areas